PB-217 845

WILLAPA RIVER BASIN (WASHINGTON) ECONOMIC BASE STUDY AND ESTIMATE OF GROWTH 1960-2010

Public Health Service
Portland, Oregon

29 March 1963

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PB 217 845

WORKING PAPER NO. 43

COLUMBIA RIVER BASIN PROJECT

FOR WATER SUPPLY AND WATER QUALITY MANAGEMENT

WILLAPA RIVER BASIN (WASHINGTON) ECONOMIC BASE STUDY AND ESTIMATE OF GROWTH, 1960-2010

March 29, 1963

Details of illustrations in this document may be better studied on microfiche

A JOINT REPORT

STATE OF WASHINGTON
DEPT. OF COMMERCE AND ECONOMIC DEVELOPMENT
OLYMPIA, WASHINGTON

U. S. DEPT. OF THE INTERIOR
BUREAU OF RECLAMATION
SPOKANE, WASHINGTON

U. S. DEPT. OF HEALTH, EDUCATION AND WELFARE
PUBLIC HEALTH SERVICE
DIV. OF WATER SUPPLY AND POLLUTION CONTROL
PORTLAND, OREGON

WILLAPA RIVER BASIN (WASHINGTON)
ECONOMIC BASE STUDY
AND ESTIMATE OF GROWTH, 1960-2010

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SUMMARY

1. The Willapa River Basin had a population of almost 9,000 in 1960, about 5,000 of whom were in the Basin's two incorporated places, Raymond and South Bend. The Basin's economy is largely dependent upon lumber and wood products manufacturing, fisheries, and food processing, particularly oysters from Willapa Bay. (See attached Economic Base Report prepared jointly by the U. S. Public Health Service, U. S. Bureau of Reclamation and the State of Washington.) The population in the Basin as a whole, as well as of each of the two cities, declined during 1950-60, despite the growth of Washington state population at a rate slightly greater than the national average.

2. An examination of the factors likely to influence future growth in the area does not suggest a strong growth trend except to the extent that the possible availability of industrial plant sites in the study area is a significant factor. Based on further utilization of the area's timber resource and improved irrigation in the Basin, it is forecast that a plywood mill and an increase in food processing will occur. In addition, recreation and tourism, as well as a trend toward urbanization, are anticipated to increase the size of the two major communities in the Basin and also result in the Basin increasing its percentage of total county population. Such growth would be reflected by an increase in the Basin's population from 9.0 thousand in 1960 to 10.7 thousand in 1985, and 13.0 thousand in 2010. Population in the two incorporated places is projected to increase from 5.0 thousand in 1960 to 6.4 thousand in 1985 and 8.5 thousand in 2010. Population in Pacific County is projected to increase from 14.7 thousand in 1960 to 17 thousand in 1985 and 20 thousand in 2010. For purposes of comparison

it can be noted that the projection for the county is the equivalent of an average annual growth rate of 0.6 percent a year while U. S. Census Bureau forecasts (Series II) indicate a growth rate in excess of 2 percent a year for Washington State.

3. In addition to the forecast summarized above, the Washington State Department of Commerce and Economic Development has indicated several types of industries which might consider locating in the study area based on the possible availability of plant sites. Because of the wide variety of these developments and the likelihood that some of them might be based on unusual circumstances such as the discovery of petroleum or the installation of defense or space vehicle facilities, no specific forecast of these possibilities has been made. For this reason the forecasts which are included in this report should be considered as a base to which can be added the inevement of industry and population that is indicated by the assurances available from local or state agencies having special knowledge or responsibility concerning such potential development of industrial sites in the study area. The evaluation of the importance of these hypothetical potentials should include consideration of the value of providing water supplies in advance of need as a possible developmental factor of importance to the growth of the area.

WILLAPA RIVER BASIN (WASHINGTON)
ECONOMIC BASE STUDY
AND ESTIMATE OF GROWTH, 1960-2010

I. INTRODUCTION

A. Purpose of this Analysis

This analysis is intended to provide an estimate of the economic potentials and anticipated growth of the subject area as guidance in examining water supply and water quality needs.

B. Definition of the Area

The area drained by the Willapa River lies entirely within the northern portion of Pacific County, Washington. For purposes of this study, the Willapa Basin is defined as the area comprised by 1960 Pacific County Census Divisions 2,3, and "Raymond". This is the area within the dotted line shown on the attached map (Figure 1), and conforms closely to the actual physical drainage basin. Because the Willapa Basin includes over half of total county population (61 percent in 1960) and because employment statistics are available only for the county as a whole, data are presented in this study, where practicable, for both the Willapa Basin and for Pacific County as a whole.

C. Study Period

The study period is the 50-year period 1960-2010, with an interim point at 1985.

D. Limitations of this Analysis

This study is intended for use particularly in assessing future water needs, in relation to a proposed water control project in the Willapa Basin. Emphasis has been placed on the consideration of those industries which make heavy demands upon the water resource. Other industries have been considered only insofar as they may have a significant effect on future population. For

these reasons, this study is not submitted as a detailed industrial forecast.

E. Participating Agencies

This study has been prepared jointly by the U. S. Public Health Service (Pacific Northwest Water Supply and Pollution Control Office); the Washington State Department of Commerce and Economic Development; and the U. S. Bureau of Reclamation.

II. PRESENT ECONOMIC BASE

A. Population

The population of the Willapa Basin in 1960 was about 9,000. About 5,000 were in the Basin's two incorporated places, Raymond and South Bend. As shown in Table I, the Willapa Basin and the two cities and the unincorporated area comprising it all declined in population from 1950 to 1960. The population of the remainder of the county and its incorporated places also declined during the decade. Where data for 1940 are available, it appears that there was a slight increase in population from 1940 to 1950 in some parts of the county, but population in 1960 was generally below that of 1940.

TABLE I

POPULATION OF PACIFIC COUNTY, WASHINGTON, AND THE WILLAPA BASIN
1950 AND 1960

BY INCORPORATED AND UNINCORPORATED AREAS

Area	1950 a/	1960 a/
Willapa Basin, Total	10,382	8,962
South Bend	1,857	1,671
Raymond	4,110	3,301
Unincorporated area	4,415	3,990
Remainder of County, Total	6,176	5,712
Long Beach	783	665
Ilwaco	628	518
Unincorporated area	4,765	4,529
Pacific County, Total	16,558	14,674

a/ As of April 1 of year shown.
Source: U. S. Census of Population.

B. Industry

The economy of Pacific County, particularly the portion of it identified as the Willapa Basin, is heavily dependent upon two resources: timber and the Willapa Bay fisheries. In the southern part of the county, mainly outside the Willapa Basin, tourism and recreation are important to the economic base. Table II shows the employment distribution by industry in the whole county. Table III describes the principal manufacturing firms in the Basin. In 1960, sixty percent of all manufacturing employment was in lumber and wood products. More than half of this employment was in one plant, that of the Weyerhaeuser Company at Raymond. Of the remaining employment in manufacturing, nearly all was in food processing, a large part of which was connected with the oyster industry at South Bend.

Table II reveals the decline in the economic base of Pacific County during the 1950-60 decade which was associated with the population decline mentioned in the previous section. Employment in many of the industrial categories, and particularly in two of the basic industries, (fisheries and lumber and wood products manufacturing) declined substantially during the decade. Agricultural employment also declined considerably, but this was partly due to consolidation of farms and increased labor productivity as part of a national trend. There was some increase in food and kindred manufacturing. Employment also increased in some of the service categories, which is in line with national trends.

TABLE II

EMPLOYMENT, BY INDUSTRY, PACIFIC COUNTY

Industry	1950 a/	1960 a/
Agriculture	518	332
Forestry and fisheries	376	211
Mining	7	9
Manufacturing, total	2,344	1,779
Lumber, wood prod., furn. & fix.	1,754	1,074
All other durables	53	41
Food and kindred	476	600
Printing and publishing	57	42
All other non durables, and misc.	4	22
Construction	306	301
R. R. transp.	36	25
Trucking and warehousing	55	72
Other transp. (shipping, docks, etc.)	179	123
Communications and utilities	113	152
Wholesale trade	106	70
Retail trade	749	667
Fin., Ins., R.E., Bus. & repair serv.	218	146
Personal serv., enter., & recreation	297	329
Education	200	315
Medical, hosp. other prof. and related	161	278
Public administration	193	179
Industry not reported	154	92
Employed Civilian Labor Force, Total	6,022	5,080
Military	28	72
Unemployed	376	358
TOTAL LABOR FORCE	6,426	5,510
TOTAL POPULATION, PACIFIC COUNTY	16,558	14,674
Percent of Total Population in Labor Force	38.8%	37.5%

a/ As of April 1 of year shown.

Source: U. S. Census of Population

TABLE III

PRINCIPAL MANUFACTURING FIRMS IN THE WILLAPA BASIN

Name of Firm	Product	Employment [a]
Raymond:		
Dennis Company	Carbonated beverages	20-49
Elk Prairie Timber Co.	Studs, ties	20-49
Olympic Hardwood Co.	Lumber, studs	100-199
Weyerhaeuser Company	Lumber	500-999
Willapa Cedar Sales	Shakes, shingles	50-99
South Bend:		
Coast Oyster Company	Seafood	100-249 [b]
Minks Oyster Company	Seafood	10-19
New Washington Oyster Sales	Seafood	20-49
Palix Oyster Company	Seafood	20-49
Sedy Bros. Lumber Company	Shingles, shakes	10-19
South Bend Shingle Company	Cedar products	10-19
Willapa Logging Company	Logs	10-19
Woodward Logging Company	Logs	10-19

a/ Normal employment is within range shown.

b/ Peak employment was in range 250-499.

Source: Directory of Washington State Manufacturers, 1961, Washington State Department of Commerce and Economic Development.

The decline in the economic base is also reflected in figures on waterborne commerce in Willapa Bay for the 1950-60 decade. Total tonnage, both in vessels and rafted, declined from 934,000 tons in 1951 to 450,000 tons in 1960.[1/] Total seafood landings have also declined during recent years, both in tonnage and dollar value.[2/]

Table IV, by comparing the employment distribution in Pacific County with that in the Seattle Region and the United States, emphasizes the dominant importance of fisheries, lumber and wood products manufacturing, and food processing to the county's economy. The table also reveals some possible specialization in the "other transportation" category, which represents dock work and water transport in connection with seafood and lumber.[3/]

1/ In 1960, the principal products handled in Willapa Bay by waterborne commerce were shellfish and rafted logs, in local movements, and 73,000 tons of lumber in coastwise trade. Waterborne Commerce of the U. S., 1960, Corps of Engineers, p. 86.

2/ Total pounds of oysters, crabs, shrimps, salmon and clams landed in Willapa Bay in 1958 was 12.3 million, which had declined to 8.3 million pounds in 1961. The dollar value declined from $1.7 million in 1958 to $1.4 million in 1961. Washington State Dept. of Fisheries, Annual Yearbook reports.

3/ Ibid 1/

TABLE IV

COMPARATIVE DISTRIBUTION OF LABOR FORCE, BY INDUSTRY

AS OF APRIL 1, 1960

PACIFIC COUNTY, SEATTLE REGION, AND UNITED STATES

(As Percent of Total Labor Force)

Industry	Pacific Cty.	Seattle Region a/	U.S.
Agriculture	6.0	4.5	6.1
Forestry and fisheries	3.8	.5	.1
Mining	.2	.1	.9
Manufacturing, Total	32.3	24.1	25.1
Lumber, wood prod., furn. & fix.	19.5	5.0	1.5
All other durables	.7	11.3	12.6
Food and kindred	10.9	2.6	2.6
Printing and publishing	.8	1.3	1.6
All other non-durables and misc.	.4	3.9	6.8
Construction	5.5	5.8	5.5
R. R. transp.	.5	1.1	1.3
Trucking and warehousing	1.3	1.2	1.3
Other transp.(shipping, docks, etc.)	2.2	2.0	1.3
Communications and utilities	2.8	2.3	2.5
Wholesale trade	1.3	3.7	3.2
Retail trade	12.1	13.5	13.7
Fin.,Ins.,R.E., Bus. & repair serv.	2.6	6.0	6.2
Personal serv., enter. & recreation	6.0	5.5	6.2
Education	5.7	5.2	4.8
Med.,hosp.,other prof. and related	5.0	6.3	6.0
Public administration	3.2	4.7	4.6
Industry not reported	1.7	2.6	3.7
Employed Civilian Labor Force	92.2	89.1	92.5
Military	1.3	4.6	2.5
Unemployed	6.5	6.3	5.0
TOTAL LABOR FORCE	100.0	100.0	100.0

a/ Defined as Washington State less 5 counties in southwestern Washington (in the Portland Region) and 15 counties in eastern Washington (in the Spokane Region).

Source: U. S. Census of Population

III. GROWTH POTENTIALS AND FORECAST

A. Factors Influencing Future Growth

1. Lumber and wood products

About 83 percent of Pacific County timber is privately owned, with Weyerhaeuser, Crown Zellerbach and Rayonier holding the majority of this private timber. 1/ In addition to the lumber mill operated by Weyerhaeuser at Raymond, their timber resources appear to be adequate for the establishment of a plywood mill, probably in the same vicinity, and it is assumed here that such a mill will be added during the study period. Weyerhaeuser has recently constructed a 400 ton-per-day sulfite pulp facility at Cosmopolis, about twenty miles north of Raymond. Rayonier's Pacific County resources are directed towards its 320 ton-per-day sulfite pulp mill at Hoquiam, only about 25 miles away by major highway. Crown Zellerbach's Pacific County timber is brought out via Cathlamet and thence to its various mills in the region. When a Crown Zellerbach pulp and paper mill being built at Wauna, across the Columbia from Cathlamet, is completed, it is likely that Pacific County timber will be used there. Because so much of the county's timber is thus committed to use in existing modern plants in adjacent areas, it appears unlikely that further major expansion will occur in the Willapa Basin in this industry, other than the plywood plant already mentioned. This pattern is further strengthened by the historical trend in the pulp industry towards increasing plant size and enlarging the capacity of existing installations. This trend reduces the likelihood of a small pulp plant being established in the area to utilize the relatively limited uncommitted chippable resources.

1/ Unpublished study by the Washington State Department of Commerce and Economic Development, January 1963.

2. Fisheries

The reasons for the decline in the landings of oysters and other seafood referred to above have not been established at this time. It is assumed here that the decline in the Willapa Bay fishery will not continue, but that landings and employment in the industry will maintain about their present levels. If this decline does not stop, an important segment of the economic base will continue to erode, and the modest population growth projected in the following section would not be likely to be achieved.

3. Agriculture

Some increase in agricultural production would be expected to result from construction of the proposed Bureau of Reclamation project in the Willapa Basin. The agricultural economy of the area is predominantly dairying, with some beef production. It is estimated that, with an adequate water supply for irrigation, crop yields might double. 1/ Dairying would continue as the predominant farm type but dependable irrigation would permit some diversification. 1/ As far as employment in agriculture is concerned, it is assumed here that, while improved irrigation might increase the incomes of farmers, no significant increase in farm employment would result. At most, the declining trend in farm employment might be halted.

4. Food processing

Since the principal raw materials used in the food processsing industry in the Willapa Basin are oysters and other seafoods, and since it has been assumed that total landings will remain about at their present level, no increase is foreseen in employment in food processing. The increase in farm

1/ U. S. Bureau of Reclamation, South Fork and Lower Willapa River Watershed, Report of field inspection, April 1962, P. 7-8.

production that would result from an adequate water supply for irrigation could possibly lead to an increase in production of dairy products and possibly a small increase in food processing employment.

5. Recreation and tourism

As population increases in western Oregon and western Washington, the need for recreational facilities will become greater, and areas with recreational potential, such as Pacific County, will be visited by larger numbers of people. The parts of the county likely to experience the major effects of this increase in tourism lie outside the Willapa Basin, but some increases in service industry employment in the Basin are anticipated. The Willapa Basin does have hunting and steelhead fishing possibilities, and some small increase in service industry employment could be built upon this. The completion of the bridge across the Columbia at Astoria will make access easier from Highway 101 to the Pacific County beaches. However, it should be pointed out that easier communication between Pacific County and the City of Astoria can also have a negative effect on other types of service industry employment (entertainment, wholesale trade, finance, insurance, etc.) since facilities in the larger city (Astoria) may replace those in the heretofore more isolated places in Pacific County.

6. Other industries

The availability of a large plant site in the vicinity of Raymond might also represent a significant factor influencing future growth. This site is accessible to ocean-going vessels through a 26-foot channel and thus extends the range of industrial possibilities to those for which water transportation may be significant. An examination of comparable plant sites in western Washington indicates that the availability of such sites is restricted.

Attached to this report as Appendix A is a summary of an unpublished report of the Washington State Department of Commerce and Economic Development which summarizes the situation for large plant sites having deep water potential. This report also indicates the types of industries which might consider locating in the study area based on the availability of the plant site and other features the area possesses.

B. Estimated Future Growth

The population history of Pacific County during the past two decades contrasts sharply with that of the State of Washington as a whole, as shown in Table V. While the state's population was growing rapidly, at rates exceeding the national average, Pacific County's population was growing only slightly or declining. The examination of the factors likely to influence future growth in the county, discussed in the previous section, does not suggest the possibility of a strong growth trend in the future, except to the extent that the availability of industrial plant sites in the study area is a significant factor. Because of the wide variety of developments that could be considered as a potential and the likelihood that some types of development might be based on unusual circumstances such as the discovery of petroleum or the installation of defense or space vehicle facilities, it is not thought to be reasonable to make a specific forecast of the type or size of such industrial potentials or their impact on study area population. For this reason, the forecasts which are included in this report should be considered as a base to which can be added the increment of industry and population that is indicated by the assurances available from local or state agencies having special knowledge or responsibility concerning such potential development of industrial sites in the study area.

These assurances would be those normally required by the construction agency as a basis for including water requirements in a proposed project. The determination of the need for such water requirements should include consideration of the importance of having various facilities available to industrial sites in advance of need. It should be recognized that the availability of such basic features as water supply could have special importance as a developmental factor to the growth of the area. It must also be recognized, however, that some types of industrial development might have an adverse effect on other water uses or users and that the analysis of location factors should include the consideration of these effects or the costs of overcoming them.

The 1960-85 and 1985 to 2010 growth rates for Washington State, shown in Table V, are based upon a projection of national population by the U. S. Bureau of the Census and an allocation of that national population among the various states. 1/ The projected rates for Pacific County represent a judgment based upon the projected state rates of growth, relative growth in other areas of the state, and the factors expected to influence growth in the county. These projected rates for Pacific County are shown in Table V.

TABLE V

POPULATION GROWTH RATES IN PACIFIC COUNTY AND WASHINGTON STATE, 1940-60 AND PROJECTED RATES FOR 1960-85 AND 1985-2010

(Annual Compound Rates, Percent)

Area	1940-50	1950-60	1940-60	1960-85	1985-2010
Pacific County	0.4	Decr.	Decr.	0.6	0.6
Washington State	3.2	1.8	2.5	2.2	2.1

1/ The national projection used is Series II, the higher of the two projections now considered to be the most likely to eventuate. The allocation among the states is based on Kerr Committee (U. S. Congress, March 1960) report number 5, pp. 6,7 and 29.

On the basis of the rates of growth assumed in Table V, estimates of future population in Pacific County, the Willapa Basin, and the incorporated portions of the Basin are shown in Table VI. These projections must be regarded as illustrative and based more upon judgmental evaluations than upon quantifiable factors. It has been assumed that the location of a plywood mill in the vicinity of Raymond and the possible increase in food processing resulting from improved irrigation in the Willapa Basin will result in the Basin's increasing its percentage of total county population, even though tourist and recreation services in the southern part of the county experience growth. For the same reasons, and also because of the pronounced trend toward urbanization throughout the nation, it is assumed that the incorporated areas will increase as a percentage of Basin population. The unincorporated portion of the Basin declined less than the cities during 1950-60 and it is assumed that it will grow less during the study period, thus maintaining a greater stability with less response to new economic factors.

(Table VI on next page)

TABLE VI

ESTIMATED FUTURE POPULATION OF PACIFIC COUNTY, THE WILLAPA BASIN AND THE INCORPORATED PORTIONS OF THE WILLAPA BASIN, 1960-2010

Area	Population or Percent			
	1950	1960	1985	2010
Pacific County, population	16,558	14,674	17,000	20,000
Willapa Basin as % of Pacific County's population	63%	61%	63%	65%
Willapa Basin, population	10,382	8,962	10,700	13,000
Incorporated portion 1/ of Willapa Basin as % of Willapa Basin's population	57%	55%	60%	65%
Incorporated portion 1/ of Willapa Basin, population	5,967	4,972	6,400	8,500
Unincorporated portion of Willapa Basin, population	4,415	3,990	4,300	4,500

1/ Includes Cities of Raymond and South Bend, which may grow by annexation as suburban population density increases.

BIBLIOGRAPHY

In addition to the sources mentioned in footnotes on the preceding pages, the following studies were also reviewed in connection with this study:

Area Redevelopment Association, Pacific County, October 1962

Willapa Harbor Development Association, Pacific County, by N. H. Engle and D. C. Hastings, Bureau of Business Research, University of Washington, Seattle, March 1955.

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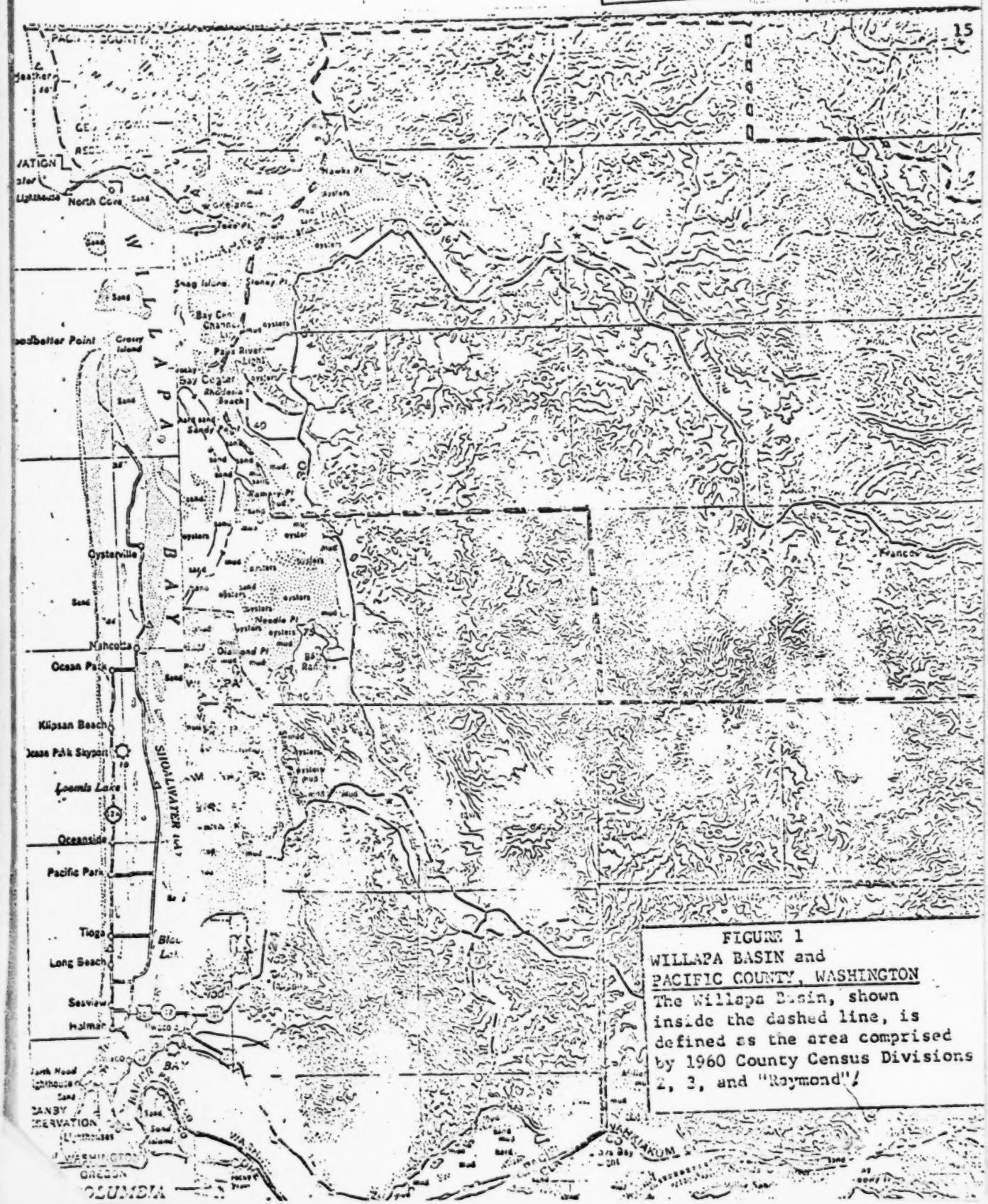

FIGURE 1
WILLAPA BASIN and
PACIFIC COUNTY, WASHINGTON
The Willapa Basin, shown inside the dashed line, is defined as the area comprised by 1960 County Census Divisions 2, 3, and "Raymond".

APPENDIX A

SUMMARY OF UNPUBLISHED REPORT OF THE WASHINGTON STATE DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT CONCERNING INDUSTRIAL SITES AND POTENTIALS, FEBRUARY 1963

Following is a general review of eight possible industrial sites in western Washington having deep water potential:

1. Ferndale - slightly more than 500 acres with major drawback being lack of rail.

2. Padilla Bay - over 500 acres but major development required.

3. Tulalip Indian Reservation - over 500 acres, but no rail and difficult to get rail into the area.

4. Tacoma - well over 500 and 1,000 acres developed and presently in extensive development program.

5. Grays Harbor - slightly over 500 acres, but major development required.

6. Longview, Kalama, Woodland - slightly over 500 acres, minor rail development required.

7. Vancouver - over 500 acres, but major development required.

8. Willapa Bay - Well over 1,000 acres, but major development and channel development required.

With reference to the Willapa River area, it would appear that the availability of 5,000 acres of land, two major railroads, ample energy supply, as well as industrial water from the dam project itself would be of more than casual interest to industry in the market for a location.

While the types of industry which might consider locating in the area

are almost endless, certainly the nine listed below would have more than average likelihood.

1. Missile Space Industry
2. Aluminum Industry
3. Ferro Alloy Industry
4. Electrical Chemical Industry
5. Industrial Chemical Industry
6. Pulp Industry
7. Plywood Mill
8. Hardwood Sawmill & Plywood Mill
9. Refinery Industry